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The Files (Trip Report)   20 September 1956

25X1A9a

25X1A   T.O. 4, VLF Antenna Study

                                                                    25X1A5a1
        1. On 17 September 1956 a meeting was held at the ▪▪▪▪▪▪▪▪▪▪▪▪▪
25X1A5a1   at ▪▪▪▪▪▪▪▪▪▪▪▪▪▪, Present were:

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        2. The contractor is attacking the design problem on two fronts: he
is making an analytical comparison of the three designs suggested in his
proposal and at the same time he is building a model of the design with
separate antennas and separate isolation stages.

        3. The contractor is making progress with this model. The standard
test field has been in operation for two weeks and has been used in de-
termining optimum ferrite materials and dimensions. Results of this
program have indicated that unloaded Q's of 140 can be obtained. Since the
loaded Q will be approximately 100 the current design calls for a ten
element matrix. A test panel containing ten isolation amplifiers and the
summation amplifier is being constructed. The contractor has indicated
that the delivered antenna will use a ferrite prepared in the laboratory
with characteristics estimated to be twice as good as production quality
ferrites. As a result duplicates of the delivered item will be abnormally
expensive.

        4. The contractor expects to freeze the design in two weeks and
estimates that delivery can be made by 1 November 1956.

        5. It has been agreed that it would be useful to have a standard of
comparison for antennas at very low frequencies. It has been decided that
the air core loops currently in use by the Supplemental Programs Division
will be tested in the standard field at the ▪▪▪▪▪▪▪▪▪▪ A trip is   25X1A5a1
25X1A9a being arranged for ▪▪▪▪▪▪▪▪▪▪ and ▪▪▪▪▪▪▪▪▪▪ of the SP Division 25X1A9a
the week of September 24 to cooperate in these tests.

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OC-E/R&D-EP/TGW:mjr (20 September 1956)

cc: R&D Subject File/Monthly Report/SPD/Lab/Denver

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